

FORM PTO-1449 (modified)
To: U.S. Department of Commerce
(PW FORM PAT-1449)
Patent and Trademark Office

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Dkt. No.

M#

Client Ref.

280083

US/A/P 8339US

**INFORMATION DISCLOSURE STATEMENT
BY APPLICANT**

Applicant: CHEN et al.

Appln. No.: 09/822,831

Filing Date: April 2, 2001

Examiner: Unassigned

Group Art Unit: 1713

Date: August 17, 2001

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U.S. PATENT DOCUMENTS

Examiner's Initials*	Document Number	Date MM/YYYY	Name (Family Name of First Inventor)	Class	Sub Class	Filing Date (if appropriat e)
<i>n</i>	AR 5,334,292	08/02/1994	Rajeshwar <i>et al</i>	—	—	
<i>n</i>	BR 6,096,453	01/01/2000	Grunwald	—	—	
<i>n</i>	CR 4,697,000	09/29/1987	Witucki et al.	—	—	
<i>n</i>	DR 3,574,072	04/06/1971	Louvar et al.	—	—	
<i>n</i>	ER 4,468,291	08/28/1984	Naarmann et al.	—	—	

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<i>n</i>	FR	Fan et al, Synthesis and Properties of Carbon Nanotube-Polypyrrole Composites, Synthetic Metals, 1999, pp. 1266-1267 (<i>no month</i>)				
<i>n</i>	GR	Downs, C. et al., Efficient Polymerization of Aniline at Carbon Nanotube Electrodes, Advanced Materials, 1999, Vol.11, No.12, pp. 1028-1031 (<i>no month</i>)				
<i>n</i>	HR	Huggins, R.A., Supercapacitors, Philosophical Transactions of the Royal Society of London Series A-Mathematical Physical and Engineering Sciences, 1996, Vol. 354, No. 1712, pp. 1555-1566 (<i>no month</i>)				
<i>n</i>	IR	Fricke, J. et al., Aerogels-Recent Progress in Production Techniques and Novel Applications, Journal of Sol-Gel Science and Technology, 1998, Vol. 84, No.2, pp.261-269 (<i>no month</i>)				
<i>n</i>	JR	Faggioli, E., Supercapacitors for the Energy Management of Electric Vehicles, Journal of Power Sources, 1999, Vol. 84, No.2, pp.261-269 (<i>no month</i>)				
<i>n</i>	KR	Mayer, S.T. et al., The Aerocapacitor-Ap Electrochemical Energy-Storage Device, Journal of the Electrochemical Society, 1993, Vol. 140, No.2, pp.446-451				
<i>n</i>	LR	Conway, B., Transition from 'Supercapacitor' to 'Battery' Behavior in Electrochemical Energy Storage, Journal of the Electrochemical Society, June 1991, Vol. 138, p. 1539				
<i>n</i>	MR	Liu, C.Y. et al, Electrochemical Characterization of Films of Single-Walled Carbon Nanotubes and Their Possible Application in Supercapacitors, Electrochemical and Solid State Letters, 1999, Vol.2, No.11, pp. 577-578 (<i>no month</i>)				
<i>n</i>	NR	Kalaji, M. et al., The Study of Conducting Polymers for Use as Redox Supercapacitors, Synthetic Metals, 1999, Vol. 102, No.1-3, pp.1360-1361. (<i>no month</i>)				
<i>n</i>	OR	Long, J. et al., Voltammetric Characterization of Ruthenium Oxide-based Aerogels and Other RUO2 Solids: The Nature of Capacitance in Nanostructures ^{Nanostructured} Materials, Langmuir, 1999, Vol.15, No.3, pp. 780-785 (<i>no month</i>)				
<i>n</i>	PR	Sarangapani, S. et al., Materials for Electrochemical Capacitors-Theoretical and Experimental Constraints, Journal of the Electrochemical Society, 1996, Vol.143, No.11, pp.3791-3799				
<i>n</i>	QR	Zheng, J. et al., A New Charge Mechanism for Electrochemical Capacitors, Journal of Electrochemical Society, 1995, Vol. 142, No.1, pp. L6-L8				

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2/24/03

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<i>n</i>	AR	Sawai, K., A Method of Impedance Spectroscopy for Predicting the Dynamic Behavior of Electrochemical System and its Application to a High Carbon Electrode, Journal of the Electrochemical Society, 1997, Vol. 144, No.3, pp. 988-995							
<i>n</i>	BR	Niu, C. et al., High Power Electrochemical Capacitors Based on Carbon Nanotube Electrode, Applied Physics Letters, 1997, Vol. 70, No. 11, pp. 1480-1482							
<i>n</i>	CR	Fuslba, F., Electropolymerization of Polypyrrole and Polyaniline-Polypyrrole from Organic Acidic Medium, Journal of Physical Chemistry B, 1999, Vol. 103, No.42, pp. 9044-9054 (no month)							
<i>n</i>	DR	Carlberg, J. et al., Poly (3,4-Ethylenedioxythiophene) as Electrode Material in Electrochemical Capacitors, Journal of the Electrochemical Society, 1997, Vol.144, No.4, pp. L61-L64							
<i>n</i>	ER	Otero, T. et al., Statistical Design to Optimize Specific Charges in Polypyrrole by Electrosynthesis, Journal of the Electrochemical Society, 1999, Vol. 146, No. 11, pp. 4118-4123 (no month)							
<i>n</i>	FR	Curran, S. et al., A Composite from Poly (M-phenylenevinylene-co-2,5 Dioctoxy-P-Phenylene-Vinylene) and Carbon Nanotubes: A Novel Material for Molecular Optoelectronics, Advanced Materials, 1998, Vol. 10, No. 14, p.1091-1094.							
<i>n</i>	GR	Fan, J. et al., Synthesis, Characterizations, and Physical Properties of Carbon Nanotubes Coated by Conducting Polypyrrole, Journal of Applied Polymer Science, 1999, Vol. 74, No.11, pp. 2605-2610 (no month)							
<i>n</i>	HR	Yoshino, K., Electrical and Optical Properties of Conducting Polymer-Fullerene and Conducting Polymer-Fullerene and Conducting Polymer-Carbon Nanotube Composites, Fullerene Science and Technology, 1999, Vol. 7, No. 4, pp. 695-711 (no month)							
<i>n</i>	IR	Chen, G. et al, Carbon Nanotube and Polypyrrole Composites: Coating and Doping, Advanced Materials, 2000, Vol. 12, No. 7, pp. 522-526 (no month)							
<i>n</i>	JR	Esumi, K. et al., Chemical Treatment of Carbon Nanotubes, Carbon, 1996, Vol. 34, No. 2, pp. 279-281 (no month)							
<i>n</i>	KR	Naoi, K. et al., Electrochemistry of Poly (1,5-diaminoanthraquinone) and its Application in Electrochemical Capacitor Materials, Journal of the Electrochemical Society 147(2), 2000, pp. 420-426, (no month)							
<i>n</i>	LR	Audebert, P. et al, Electrochemistry and Polymerization Mechanisms of Thiophene-Pyrrole-Thiophene Oligomers and Terthiophenes. Experimental and Theoretical Modeling Studies, J. Phys. Chem. B 1998 102, pp. 8661-8669 (no month)							
<i>n</i>	MR	Schweiger, L. et al, Strategies Towards Functionalised Electronically Conducting Organic Copolymers, Journal of Materials Chemistry, 2000, 10 pp. 107-114 (no month)							
<i>n</i>	NR	Ryder, K. et al., Strategies Towards Functionalised Electronically Conducting Organic Copolymers: Part 2 Copolymerisation, Journal of Materials Chemistry, 2000, 10, pp. 1785-1793 (no month)							
<i>n</i>	OR	Frackowiak, E. et al., Supercapacitor Electrodes from Multiwalled Carbon Nanotubes, Applied Physics Letters, 2000, Vol. 77, No. 15							
<i>n</i>	PR	Frackowiak, E. et al., Carbon Materials for the Electrochemical Storage of Energy in Capacitors, Carbon 39, 2001, pp. 937-950 (no month)							
<i>n</i>	QR	Ajayan, P., Nanotubes from Carbon, Chemical Review 1999, 1999, pp. 1787-1799 (no month)							

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AR	Conway, B., Origin and Significance of "Redox Supercapacitance" and its Manifestation at Various Inorganic Materials, The Electrochemical Society, 1993, p. 15 (no month)				
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